

Nalco Docket No.: 7780-NES
Customer No. 000049459

REMARKS

This is in reply to the Office Action mailed on July 18, 2006 ("Office Action").

Claims 1-28 are currently pending.

Claims 22-28 are withdrawn from consideration pursuant to a restriction requirement under 35 U.S.C. § 121.

Claims 1-21 are rejected under 35 U.S.C. § 112, second paragraph.

Claims 1 and 17-21 are rejected under 35 U.S.C. § 102(b) over U.S. Patent 3,303,050 ("Roberts").

Claims 2 and 3 are rejected under 35 U.S.C. § 103(a) over U.S. Patent 3,303,050 ("Roberts").

Claims 1-10, 12-15, 17 and 19-21 are rejected under 35 U.S.C. § 103(a) over U.S. Patent 3,729,296 ("Miller").

Claim 1 is amended to particularly point out and distinctly claim subject matter which Applicant regards as his invention.

No new matter is added by this amendment.

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DISCUSSION

The Rejection of Claims 1-21 under 35 U.S.C. § 112, Second Paragraph

Claims 1-21 are rejected under 35 U.S.C. § 112, second paragraph. In particular, the Examiner states:

The basis of the weight percent is unclear. For instance, this could be based on the total weight of the polymer or the total of (a), (b) and (c) (note for instance that "composed of" allows for the presence of other components). Clarification is required.

Office Action at page 2

Applicant respectfully traverses this rejection.

Applicant respectfully asserts that claim 1 recites a polymer consisting of three monomer unit, each in the claimed weight percentage. Applicant further respectfully asserts that weight percentage is understood to mean the percentage by weight of each component relative to the whole (i.e. in this case the polymer). Nonetheless, even if the weight percent is based on the total of (a), (b) and (c) as suggested by the Examiner, the end result would be the same as (a), (b) and (c) are the sole components of the polymer. Accordingly, Applicant respectfully asserts that claim 1 particularly points out and distinctly claims the polymer of the invention and respectfully requests withdrawal of the rejection of claims 1-21 under 35 U.S.C. § 112, second paragraph.

The Rejection of Claims 1 and 17-21 under 35 U.S.C. § 102(b) over U.S. Patent 3,303,050

Claims 1 and 17-21 are rejected under 35 U.S.C. § 102(b) over U.S. Patent 3,303,050 ("Roberts"). In particular, the Examiner states:

Roberts teaches textile material that contains a terpolymer of an acrylic ester, a vinyl ester and a crosslinking monomer. Particular attention is drawn to Example IV to VI which show polymers having an acrylate monomer, a methacrylate monomer and vinyl ester, wherein at least one of the acrylate or methacrylate monomers meet the requirement of having a C₁₀ to C₃₀ alkyl group. Since it is not clear that the language "composed of" excludes the addition monomers found in these polymers

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(glycidyl methacrylate or methylolacrylamide) these monomers are not excluded from the claims.

For claims 17 to 20, see column 3, lines 53 to 56. Note that the upper disclosed value of 7% falls within the range of claim 20. See also the examples which use the polymers in an aqueous emulsion. For claim 21, note that products of identical chemical composition cannot have different properties. As such the composition in Roberts will meet this limitation.

Office Action at page 3.

Applicant respectfully traverses this rejection.

Applicant has amended claim 1, line 1 to replace "composed" with "consisting".

Accordingly, Applicant respectfully asserts that amended claim 1 recites a polymer consisting of monomer units (a), (b) and (c). As claim 1 does not allow for the inclusion of crosslinking monomers as disclosed in Roberts, Applicant respectfully requests withdrawal of the rejection of claims 1 and 17-21 under 35 U.S.C. § 102(b).

The Rejection of Claims 2 and 3 under 35 U.S.C. § 103(a) over U.S. Patent 3,303,050

Claims 2 and 3 are rejected under 35 U.S.C. § 103(a) over U.S. Patent 3,303,050 ("Roberts").

In particular, the Examiner states:

With regard to the molecular weight, Roberts fails to specifically teach this limitation. However, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (i.e. does not require undue experimentation). In re Aller, 105 USPQ 233. Note too MPEP 2144.05 which specifically mentions molecular weight as it applies to case law.

Office Action at page 3.

Applicant respectfully traverses this rejection.

As discussed above, Applicant has amended claim 1 to recite a paraffin inhibitor comprising a terpolymer consisting of monomer units (a), (b) and (c). Applicant respectfully asserts that one of skill in the art would have no motivation to look to the teachings of Roberts, which discloses a different polymer for a different application, omit the crosslinking monomer disclosed therein and

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selectively polymerize monomers (a), (b) and (c) in the recited amounts to the claimed molecular weight to thereby arrive at the polymer of claims 2 and 3. Accordingly, Applicant respectfully requests withdrawal of the rejection of claims 2 and 3 under 35 U.S.C. § 103(a) over Roberts.

The Rejection of Claims 1-10, 12-15, 17 and 19-21 under 35 U.S.C. § 103(a) over U.S. Patent
3,729,296

Claims 1-10, 12-15, 17 and 19-21 are rejected under 35 U.S.C. § 103(a) over U.S. Patent 3,729,296 ("Miller"). In particular, the Examiner states:

Miller teaches oil soluble polymers of unsaturated monomers having alkyl side chains having from about 18 to 34 carbon atoms. Particular attention is drawn to the bottom of column 4 which shows structural units corresponding to each of (a), (b) and (c) (and an additional "x" unit which is not excluded from the claims). Note that the copolymer can be "mixtures thereof", which indicates a copolymer having each of (a), (b) and (c).

Column 6, lines 61 and on, teach that the amount of "short chain vinyl ester" (which is preferably vinyl acetate) be present in an amount of 10 to about 90 mole percent, the lower limit of which falls within the claimed range of (c). Selecting such an amount of (c) will result in a copolymer having the necessary amount of each claimed monomeric unit such that the teachings in Miller render obvious the claim polymer.

For claim 2, please see column 6, line 60.

For claims 4 to 8 and 12 to 15, please note that adjusting the amount of each monomer unit in an effort to optimize results would have been obvious and within routine experimentation for the skilled artisan.

For claim 17 and 19-21, see column 7, lines 25 and on.

Office Action at page 4.

Applicant respectfully traverses this rejection.

As noted by the Examiner, Miller discloses a polymer composed of unspecified amounts of the monomer units shown at col. 4, lines 64 to col. 5, line 7. Of the four monomer units shown, the second and fourth monomer units fall outside the scope of the claimed invention as R must be C₁₈ to C₃₄ alkyl, and the third monomer overlaps with the claimed invention only when R₂ is CH₃.

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Miller, however, is silent as to the relative proportions of the four monomers except for the short chain vinyl ester, which can be present in an amount of 10 to about 90 mole percent, a range which is substantially broader than the claimed 1 to 30 weight percent.

Applicant respectfully asserts that nothing in Miller does not disclose a polymer which must consist of (a) about 1 to about 98 weight percent of one or more C₁-C₃₀ alkyl esters of acrylic acid; (b) about 1 to about 98 weight percent of one or more C₁-C₃₀ alkyl esters of methacrylic acid; and (c) about 1 to about 30 weight percent of one or more unsaturated monomers selected from the group consisting of (meth)acrylamide monomers, vinyl aromatic monomers, vinyl cycloalkyl monomers, vinyl heterocyclyl monomers, vinyl esters of aliphatic acids, vinyl esters of aromatic acids, vinyl esters of heterocyclic acids, maleimide and maleic anhydride, wherein the alkyl ester portion of at least one of (a) or (b) is C₁₀-C₃₀ alkyl.

Applicant further respectfully asserts that the words "or a mixture thereof" provides absolutely no motivation for selecting two different monomers from those having the first formula at col. 4, line 70 (one where R₁ is H, the other where R₁ is CH₃) where one of the two monomers must have R = C₁₀ to C₃₀ alkyl and the other can be C₁ to C₃₀ alkyl (this despite Miller's disclosure that all R must be at least C₁₈); incorporating both monomers in the claimed amounts; not including any of the second or fourth monomer unit; and including 1 to 30 weight percent of the third monomer (Miller calls for 10 to 90 mole percent) where R₂ is CH₃ to thereby prepare the only polymer possible under the disclosure of Miller which overlaps Applicant's claimed polymer.

In view of the foregoing, Applicant respectfully asserts that extrapolating the teaching of Miller to Applicant's invention can only be accomplished using impermissible hindsight reconstruction based on Applicant's disclosure and accordingly Applicant respectfully requests withdrawal of the rejection of claims 1-10, 12-15, 17 and 19-21 under 35 U.S.C. § 103(a) over Miller.

Request for Rejoinder

In the Office Action mailed on April 26, 2006, the Examiner imposed a restriction requirement under 35 U.S.C. § 121 and required Applicant to elect the invention of Group 1 or Group II as set forth below for prosecution on the merits.

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- I. Claims 1 to 21, drawn to a polymer, classified in class 526, subclass 328.5.
- II. Claims 22 to 28, drawn to a method, classified in class 507, subclass 224.

The Examiner further stated that Groups I and II are related as product and process of use. In Applicant's Amendment and Reply dated May 10, 2006, Applicant elected Group I with traverse.

Under MPEP § 821.04, where an Applicant is required to make an election between product claims and process of use claims, Applicant may request rejoinder of the product claims and process of use claims if claims directed to the product are subsequently found allowable.

MPEP § 821.04 further states that process claims which depend from or otherwise include all the limitations of the patentable product will be allowed as a matter of right if the amendment is presented prior to final rejection or allowance.

Applicants respectfully assert that claim 1 is in condition for allowance and further that claims 22-28 all depend from claim 1 and therefore by definition include all limitations of the patentable product claim. Accordingly, Applicants respectfully request rejoinder of claims 22-28 with claims 1-21.

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CONCLUSION

In view of the foregoing amendment and remarks, Applicant respectfully requests withdrawal of the rejections under 35 U.S.C. §§§ 102(b), 103(a) and 112, second paragraph and rejoinder of claims 22-28 with claims 1-27 and respectfully asserts that this application is in condition for allowance. Early notice to this effect is earnestly solicited.

Respectfully Submitted,

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